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CONCOW PYRODIVERSITY: PRESENCE OF SPOTTED OWLS AND NORTHERN GOSHAWKS

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
August 2, 2021	Concow Pyrodiversity	Daniel Lipp

INTRODUCTION

The purpose of this document is to summarize the effort to establish presence or absence of Spotted Owls (*Strix occidentalis*) and Northern Goshawks (*Accipiter gentilis*) for the Concow Pyrodiversity project in 2021.

PROTOCOL

NEPA-level surveys were conducted for Spotted Owls (SPOWs) and Northern Goshawks (NOGOs) in the Flea Valley area of Butte County, CA in Lassen National forest between May 22 and July 27, 2021. Survey stations were selected based on the known range of each species, historic records of presence at the site, and habitat suitability. Areas with insufficient canopy coverage necessary for SPOW or NOGO occupancy were not surveyed unless they were adjacent to suitable habitat.

Three passes of the survey area were conducted for Spotted Owls between May 22 and July 5. Each pass of the survey area was performed at least a week apart. When possible, survey stations were set up on roads in order to minimize traveling time over the project area and maximize coverage. Survey stations in acceptable habitat were placed approximately 700 meters apart, allowing some leeway for topography. An omnidirectional speaker was used to broadcast a variety of SPOW hoots and calls interspersed with periodic silences for listening over the course of 10 minutes. Areas of potential habitat that were inaccessible to vehicles were surveyed on foot. These surveys took the form of “cruises” wherein the surveyor would either keep SPOW playback playing continuously or use a “hoot flute” at the surveyor’s discretion to call while hiking through habitat. Instantaneous location was recorded at various points during each cruise to allow for mapping a general route of said cruise when mapped. Survey conditions were taken during each point and cruise survey. When an owl was detected, a bearing and distance estimation were taken and a rough projection of the owl’s location was plotted. The surveyor would then attempt to locate the owl and assess its breeding or reproductive status using a four-mouse protocol. After walking in on owl detections, survey points within earshot of the owl’s estimated core were skipped in order to avoid dragging owl to locations outside its core.

Two passes of the project area were conducted for Northern Goshawks between July 1 and July 27. Survey stations were set up approximately 200 meters apart in acceptable NOGO habitat. An omnidirectional speaker was used to broadcast NOGO wail and begging

calls for 10 seconds, followed by 30 seconds of silence for listening. This pattern was repeated six times per survey. When a NOGO was detected, surveyor observed and attempted to ascertain age and document behavior.

PROJECT AREA

The project area is centered on Flea Valley Canyon in Butte Co., CA. It is bound by Dixie Road on the North, Pulga/Camp Creek Road on the East, Rim Road to the town of Pulga on the South, and Concow Road on the West, with a small discrete section South of Oakway Road to the West.

The area is mostly marked by high severity fire, with some low- and mid-severity pockets. The entirety of Phase 3 and the vast majorities of Phases 1 and 2 are effectively shrub fields with scattered standing and down snags. Areas of insufficient canopy closure were not surveyed for SPOWs or NOGOs, but sometimes required traversing to reach suitable habitat. Surveys were concentrated in low- and moderate-severity burned areas, which were found near Flea Valley Creek and the areas between Dixie Road and Flea Valley Road. These areas have high retention of live old growth trees and could act as suitable habitat for SPOWs or NOGOs.

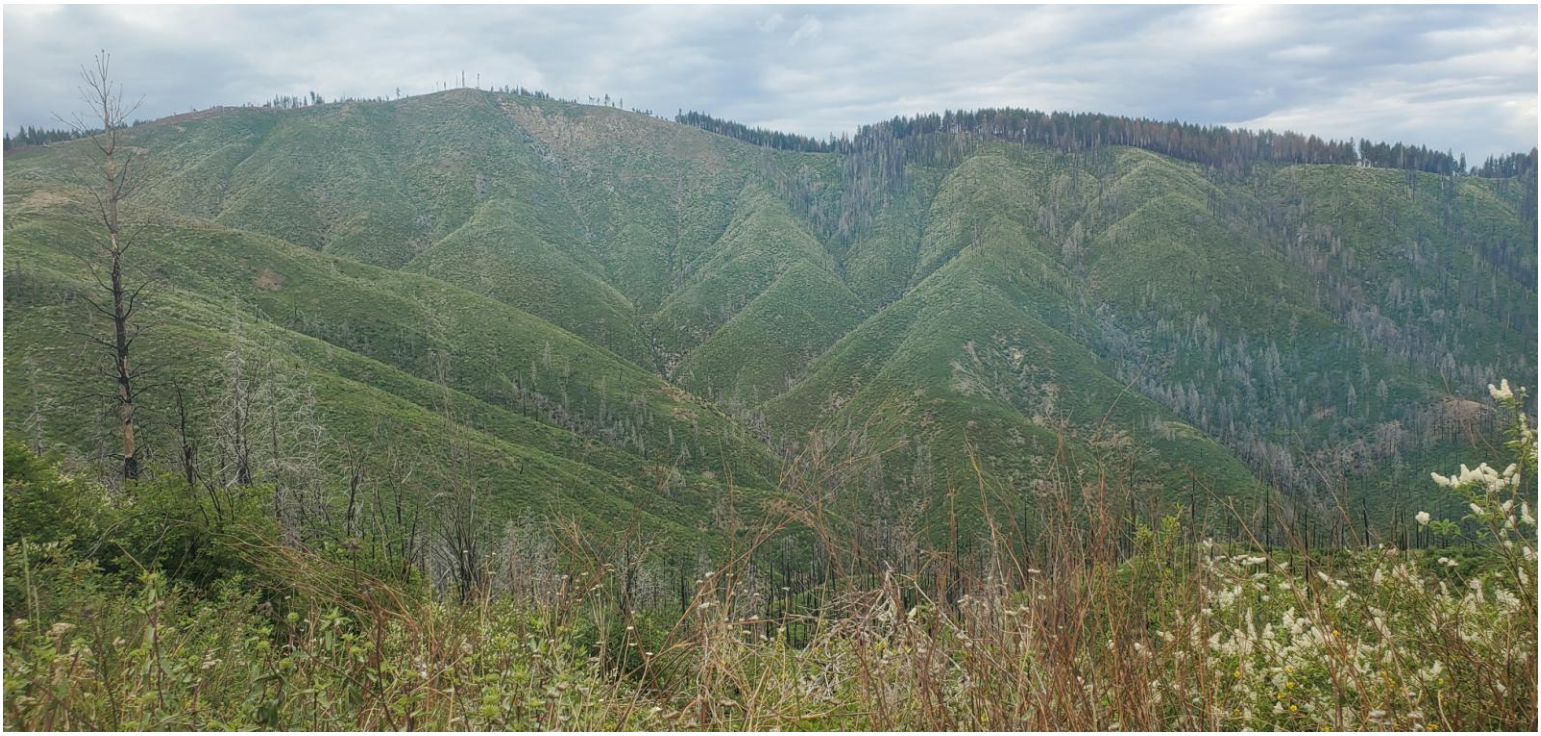

Figure 1: Phase 1 in Flea Valley Canyon viewed from Concow Road

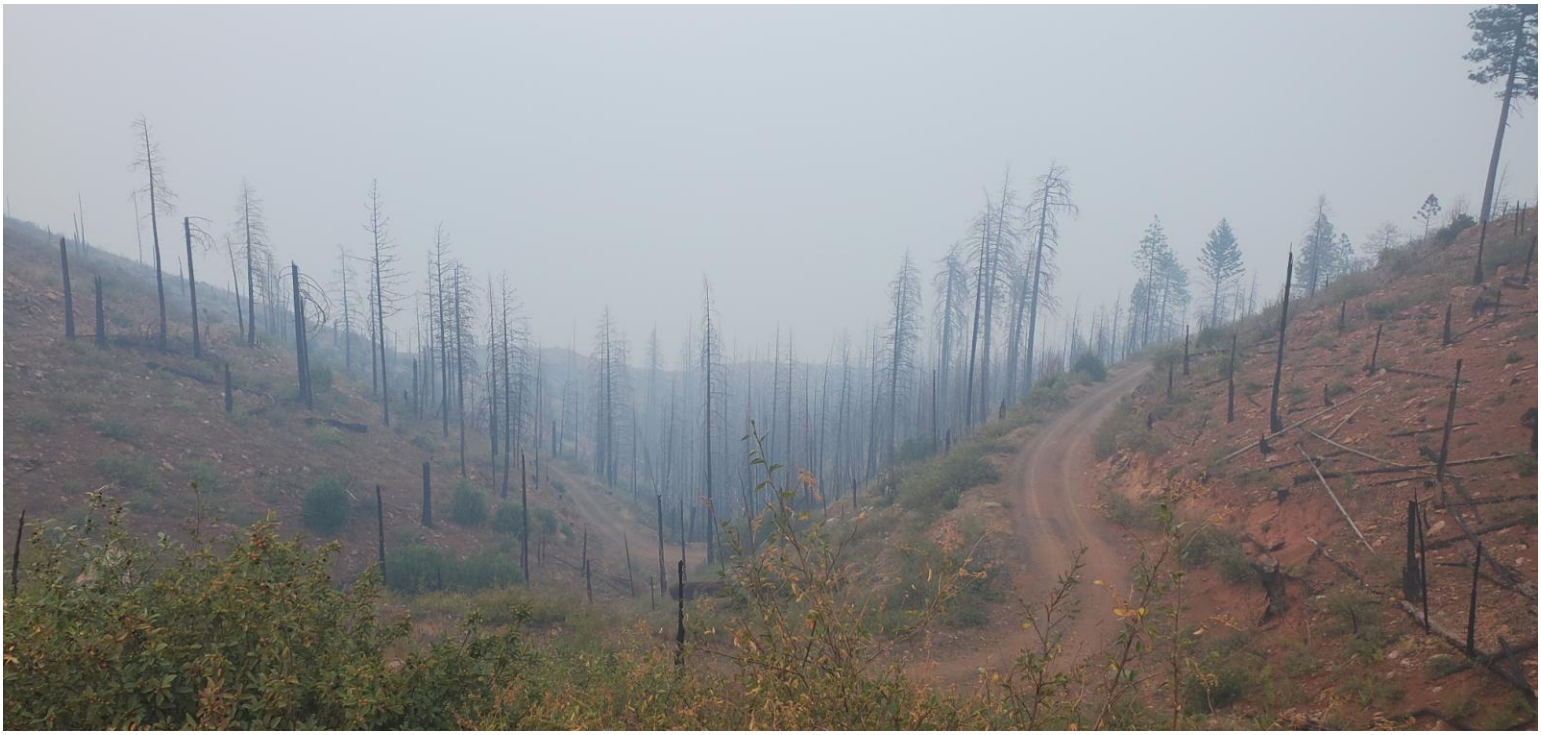

Figure 2: Southern Phase 2 in Flea Valley Canyon viewed from unnamed road East of Rim Road

Figure 3: Phase 1 low severity burn viewed from Dixie Road

SPOW SURVEY POINTS

Point	Latitude	Longitude	Description
Placemark 1	39.80065	-121.4589775	No SPOW detections.
Placemark 10	39.80596	-121.4758116	No SPOW detections.
Placemark 11	39.8014	-121.4695103	No SPOW detections.
Placemark 12	39.8182	-121.4988567	No SPOW detections.
Placemark 13	39.82017	-121.5094885	No SPOW detections.
Placemark 14	39.82232	-121.5204467	No SPOW detections.
Placemark 15	39.82844	-121.4700132	No SPOW detections.
Placemark 16	39.83459	-121.4741139	No SPOW detections.
Placemark 17	39.83623	-121.466687	No SPOW detections.
Placemark 18	39.8392	-121.4593111	1 male SPOW detected July 3.
Placemark 19	39.83205	-121.4641437	No SPOW detections.
Placemark 2	39.80112	-121.4546024	No SPOW detections.
Placemark 20	39.83222	-121.4695781	No SPOW detections.
Placemark 21	39.82969	-121.4666177	No SPOW detections.
Placemark 22	39.82781	-121.4647987	No SPOW detections.
Placemark 23	39.82523	-121.4649542	No SPOW detections.
Placemark 24	39.82304	-121.459491	No SPOW detections.
Placemark 25	39.81961	-121.4585692	No SPOW detections.
Placemark 26	39.81773	-121.4535631	No SPOW detections.
Placemark 27	39.81943	-121.4504359	No SPOW detections.
Placemark 28	39.81428	-121.4448775	No SPOW detections.
Placemark 29	39.81708	-121.4392376	No SPOW detections.
Placemark 3	39.80564	-121.4636865	No SPOW detections.
Placemark 30	39.80381	-121.4460317	No SPOW detections.
Placemark 31	39.80819	-121.4396308	No SPOW detections.
Placemark 32	39.81227	-121.4377288	No SPOW detections.
Placemark 33	39.81567	-121.4328327	No SPOW detections.
Placemark 34	39.81221	-121.4602968	No SPOW detections.
Placemark 4	39.82017	-121.4774735	No SPOW detections.
Placemark 5	39.81657	-121.4805157	No SPOW detections.
Placemark 6	39.83199	-121.4812336	No SPOW detections.
Placemark 7	39.82362	-121.4841218	No SPOW detections.
Placemark 8	39.81829	-121.4878943	No SPOW detections.

Placemark 9	39.8107	-121.4833922	No SPOW detections.

SPOW DETECTIONS

LOCATION	DATE	SEX	AGE	NOTES
39°49'48.9" N, 121°27'59.5" W	05/22	M	Adult	Took 1 mouse. Flew NW and disappeared.
39°50'01.3" N, 121°28'17.6" W	06/19	M	Adult	Took 4 mice. Flew NW w/ each.
39°50'08.6" N, 121°28'18.7" W	07/03	M	Adult	Took mouse to female
39°49'25.0" N, 121°29'02.8" W	07/03	F	Adult	Female took mice to two separate juveniles.
39°49'25.0" N, 121°29'02.8" W	07/03	U	Juvenile	
39°49'25.0" N, 121°29'02.8" W	07/03	U	Juvenile	
39°50'28.7" N, 121°27'28.6" W	07/03	M	Adult	Took and ate 2 mice, refused the third.

NOGO SURVEY POINTS

Title	Latitude	Longitude	Description
Placemark 1	39.83164289	-121.4800979	No NOGO detections.
Placemark 10	40.4145742	-120.6498224	No NOGO detections.
Placemark 11	40.4145714	-120.649822	No NOGO detections.
Placemark 12	39.83167999	-121.4661049	No NOGO detections.
Placemark 13	39.83167918	-121.4638087	No NOGO detections.
Placemark 14	39.83167817	-121.4614846	No NOGO detections.
Placemark 15	39.8316769	-121.4591791	No NOGO detections.
Placemark 16	39.82942931	-121.4627782	No NOGO detections.
Placemark 17	39.82942984	-121.4651394	No NOGO detections.
Placemark 18	39.82943034	-121.4675006	No NOGO detections.
Placemark 19	39.82718139	-121.4663957	No NOGO detections.
Placemark 2	39.83165126	-121.4777603	No NOGO detections.
Placemark 21	39.82717943	-121.4617479	No NOGO detections.
Placemark 22	39.82493168	-121.4629485	No NOGO detections.
Placemark 23	39.82493065	-121.4606246	No NOGO detections.
Placemark 25	39.82268165	-121.45952	No NOGO detections.
Placemark 25	39.82043339	-121.4583762	No NOGO detections.
Placemark 26	39.83393143	-121.4604167	No NOGO detections.

Placemark 27	39.83392813	-121.4627668	No NOGO detections.
Placemark 28	39.83392479	-121.465117	No NOGO detections.
Placemark 29	39.8339214	-121.4674671	No NOGO detections.
Placemark 3	39.83165736	-121.4754234	No NOGO detections.
Placemark 30	39.83391778	-121.4698332	No NOGO detections.
Placemark 31	39.8339145	-121.4721674	No NOGO detections.
Placemark 32	39.83391117	-121.4745015	No NOGO detections.
Placemark 33	39.8339078	-121.4768357	No NOGO detections.
Placemark 34	39.83390438	-121.4791698	No NOGO detections.
Placemark 35	39.83615908	-121.4780004	No NOGO detections.
Placemark 36	39.83616247	-121.4756662	No NOGO detections.
Placemark 37	39.83841035	-121.4791651	No NOGO detections.
Placemark 38	39.83618393	-121.459338	No NOGO detections.
Placemark 39	39.83618415	-121.4570318	No NOGO detections.
Placemark 4	39.8316689	-121.4730865	No NOGO detections.
Placemark 40	39.83843407	-121.4559147	No NOGO detections.
Placemark 41	39.83843259	-121.4606152	No NOGO detections.
Placemark 42	39.82943287	-121.4605058	No NOGO detections.
Placemark 43	39.81838039	-121.4488151	No NOGO detections.
Placemark 45	39.81615846	-121.4430774	No NOGO detections.
Placemark 46	39.81660344	-121.5232027	No NOGO detections.
Placemark 47	39.81795045	-121.5216196	No NOGO detections.
Placemark 48	39.81930035	-121.5201048	No NOGO detections.
Placemark 49	39.81614925	-121.445372	No NOGO detections.
Placemark 5	39.83166052	-121.470736	No NOGO detections.
Placemark 6	40.41455151	-120.6498139	No NOGO detections.
Placemark 7	40.41455732	-120.6497996	No NOGO detections.
Placemark 8	40.41455846	-120.6498018	No NOGO detections.
Placemark 9	39.83167813	-121.4684368	No NOGO detections.

SPOW NARRATIVE

The first SPOW detection was a male hooting back to surveyor on May 22 in Phase 1 at 39°49.815'N, 121°27.991'W. The Owl was located and presented with a mouse, which he took northwest. Surveyor gave chase, but ultimately lost the bird and failed to get him to call again. No other SPOWs were detected during first pass.

Immediately prior to the second pass, starting at approximately 7:30 pm on June 19, surveyor conducted a walk-in on the last known

location of the male detected during the previous visit. He was quickly located again at 39°50.055'N, 121°28.294'W and approached surveyor, who presented 4 mice. The owl took each mouse and flew Northwest with them. The brush was very thick in this area and the surveyor could not keep up with the owl, so it was lost several times, but reappeared without the mouse each time. Surveyor tracked owl in increments for several hundred yards north of Dixie Road through brush, but eventually ran out of mice with which to entice the owl, and survey had to be abandoned. No other SPOWs were detected during second pass.

Immediately prior to the third pass, starting at approximately 7:45 pm on July 3, surveyor conducted a walk-in on the last known location of the male SPOW detected during the previous visit. He responded and was found at 39°50.143N, 121°28.311'W. He was given a mouse and tracked by surveyor in the typical pattern. This time, the male led the surveyor to a female and two juveniles, found at 39°50.226'N, 121°28.404'W. The remaining mice were given to the male, who transferred them to the female, who consequently fed them to the young. The juveniles did not appear well-flighted, and likely fledged from a nest tree within several hundred meters of their location.

Figure 4, left: Female SPOW, July 3. Figure 5, right: male SPOW, July 3.

Another male SPOW was detected at 39°50.429'N, 121°27.461''W at 9:44 pm shortly after surveyor finished the walk-in on the owl family. The SPOW flew to Dixie Road and took mice from the surveyor. He ate two mice and refused a third. This was approximately 1300 meters from the 4-owl family the surveyor had recently located. Just to be sure that this was a different male, surveyor drove back to within earshot of the first family of owls and hooted, eventually eliciting a response from the first male. Surveyor is confident that these were two different males.

The area is mostly marked by high severity fire, with some low- and mid-severity pockets. The entirety of Phase 3 and the vast majorities of Phases 1 and 2 are effectively shrub fields with scattered standing and down snags. Areas of insufficient canopy closure were not surveyed for SPOWs or NOGOs, but sometimes required traversing to reach suitable habitat. Surveys were concentrated in low- and moderate-severity burned areas, which were found near Flea Valley Creek and the areas between Dixie Road and Flea Valley Road. These areas have high retention of live old growth trees and could act as suitable habitat for SPOWs or NOGOs.

NOGO NARRATIVE

No NOGOs or NOGO sign were detected at any of the selected survey stations. However, there was one incidental NOGO detection when surveyor went to near the top of Flea Mountain in Phase 1 on July 2 at 5:42 pm for an unrelated matter. A NOGO of unknown sex in adult plumage was observed flying Southeast near the mountain and high off the ground. Its initial point of detection was estimated to be at

39°49’40.3”N, 121°28’16.2”. It gave two unsolicited wail calls, but did not alter its trajectory significantly. It continued to fly in a straight line parallel to the Flea Valley Creek until it passed out of the surveyor’s sight. Surveyor suspects that the bird was simply passing through the area and using updrafts from the mountain and northern Flea Valley Rim to maintain elevation.